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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/057,118

01/25/2002

Uday Kumar

FA0986 US NA

1858

23906

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04/24/2003

E I DU PONT DE NEMOURS AND COMPANY  
LEGAL PATENT RECORDS CENTER  
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WILMINGTON, DE 19805

EXAMINER

ROBERTSON, JEFFREY

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/057,118

Applicant(s)

KUMAR ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 2, the claim appears to be written as a dependent claim, but no dependency is set forth in the claim. For examination purposes, the examiner has interpreted the claim as depending from claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaycox et al. (WO 99/60065) in view of Brindoepeke (U.S. Patent No. 5,332,785).

For claims 1 and 19, on page 2, lines 4-32 and page 3, lines 1-19, Jaycox teaches a coating composition that contains a crosslinking component comprising a polyamine having an average of at least two amine functionalities per polyketimine molecule, a binder component containing a polyacetoacetate where the

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polyacetoacetate contains at least two acetoacetate functionalities and contains a methacrylate monomer as a precursor. Here, Jaycox also teaches a method where the components of the composition are combined to form a pot mix, where the pot mix is applied over a substrate and cured under ambient conditions. For claim 6, Jaycox teaches that the coating composition has a low VOC. For claim 20, on page 3, in line 28, Jaycox teaches that the substrate is an autobody. On page 14, lines 27-30, Jaycox sets forth that the addition of resins such as an epoxy resin is optional.

For claim 3, on page 5, lines 29-30, Jaycox prefers the use of a polyketimine. For claims 8 and 13, on page 11, lines 16-20, Jaycox teaches that the monomer mixtures are from 5 to 90% by weight of the total binder component solids weight. For claim 10, on page 11, lines 5-7, Jaycox teaches that the weight average molecular weight of the acrylic polyacetoacetate is preferably from 1000 to 35,000. For claim 12, on page 6, lines 3-7, Jaycox teaches that the polyamine has a weight average molecular weight of 100 to 100,000.

Although Jaycox teaches that an epoxy resin is optionally used, Jaycox fails to teach an epoxy resin that has one acetoacetate and one epoxy functionality or the amount of epoxy resin to be added to the coating composition. For claim 6, the amount of epoxy resin is a result effective variable that depends on the intended use of the coating composition as set forth by Jaycox on page 14, lines 25-27. A result effective variable is determined according to the desired properties of the resulting composition and would be obvious to one of ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Brindoepeke, in column 1, lines 36-45, teaches a liquid coating composition containing a polyepoxide with hydroxyl groups that is reacted with acetoacetic acid derivatives and a polyamine. The product of the reaction of the polyepoxide with hydroxyl groups and the acetoacetic acid derivative is an epoxy resin with at least one epoxy and at least one acetoacetate functional group. For claims 4 and 5, in column 4, lines 19-23, Brindoepeke teaches that the GPC determined molecular weight ranges from 300-50,000, which significantly overlaps the ranges set forth by applicant.

Brindoepeke and Jaycox are analogous art in that they are from the same field of endeavor, namely, the use of acetoacetate containing binders in coating compositions. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the epoxy resins of Brindoepeke as the optional epoxy resin component in the compositions of Jaycox. The motivation would have been that Brindoepeke teaches that the epoxy resins of the patent have rapid curing at low temperatures in column 7, lines 40-55. Since rapid cure is also a desired property of Jaycox as set forth on page

5, lines 9-16, one of ordinary skill in the art, in utilizing the optional epoxy component of Jaycox, would have selected the epoxy resin of Brindoepeke to preserve the fast curing properties of the composition.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaycox et al. (WO 99/60065) in view of Brindoepeke (U.S. Patent No. 5,332,785) as applied to claim 1 above, and further in view of Schoonderwoerd et al. (WO 96/3756).

Jaycox in view of Brindoepeke teach the limitations of claim 1 as described above. Neither reference teaches the addition of an organosilane having an epoxy group or an amino group to the composition.

On page 2, lines 15-29, Schoonderwoerd teaches a composition that has improved adhesion to substrates. On page 2, line 30 through page 4, line 9, Schoonderwoerd sets forth a composition containing a polyacetoacetate, a crosslinker, and an organosilane that can be an amino or epoxysilane. On page 15, lines 21-23, Schoonderwoerd discloses that the composition can additionally contain an epoxy resin. On page 16, lines 29-32, Schoonderwoerd prefers amino and epoxy silanes. On page 18, lines 22-24, Schoonderwoerd teaches that the silane is to be added in an "adhesion enhancing-amount".

Schoonderwoerd, Jaycox, and Brindoepeke are analogous art in that they all teach the use of acetoacetate containing binders in coating compositions. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the silanes of Schoonderwoerd in the composition of Jaycox in view of Brindoepeke. The motivation would have been that one of ordinary skill in the art, in desiring to improve

the adhesion of a similar coating composition, would have added the silanes to obtain that improvement.

### ***Conclusion***

6. EP 0 967 198 A and DE 26 21 423 A are listed as X references in the International Search Report. However, DE 26 21 423 fails to teach the reactive component set forth by applicant that contains at least two acetoacetate functionalities and is a structured reactive diluent, an acrylic polymer, or a polyester. Likewise, EP 0 967 198 A fails to teach the presence of the particular acetoacetate functional components claimed by applicant as well as a component containing an epoxy group and an acetoacetate group. Therefore, these references do not anticipate the present claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Say (U.S. Patent No. 4,906,684), Kim et al. (U.S. Patent No. 5,288,804), Chen et al. (U.S. Patent No. 5,451,653), Song (U.S. Patent No. 5,567,761), and Tang et al. (U.S. Patent No. 6,297,320) are cited for general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

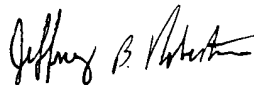
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872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Jeffrey B. Robertson  
Examiner  
Art Unit 1712

JBR  
April 18, 2003